## HISTORIC AMERICAN ENGINEERING RECORD

HAER COLO 36-GOLD.Y

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ROCKY FLATS PLANT, PLUTONIUM RECOVERY AND FABRICATION FACILITY (Rocky Flats Plant, Building 771) (Rocky Flats Plant, Plant C) Located in the north-central section of the Plant. Golden Vicinity Jefferson County Colorado

HAER No. CO-83-N

Photographs CO-83-N-1 through CO-83-N-18 were taken by various site photography contractors, dates are indicated in parentheses.

CO-83-N-1
VIEW LOOKING SOUTH AT BUILDING 771 UNDER CONSTRUCTION.
BUILDING 771 WAS ONE OF THE FIRST FOUR MAJOR BUILDINGS
AT THE ROCKY FLATS PLANT. BUILDING 771 WAS ORIGINALLY
THE PRIMARY FACILITY FOR PLUTONIUM OPERATIONS. (5/29/52)

VIEW OF THE GLOVE BOX WHERE, ON SEPTEMBER 11, 1957, A FIRE STARTED. THE FIRE SPREAD TO THE REST OF THE BUILDING, RESULTING IN THE TRANSFER OF PLUTONIUM FOUNDRY, FABRICATION, AND ASSEMBLY OPERATIONS TO BUILDING 776/777. (9/16/57)

CO-83-N-3 VIEW OF GLOVE BOXES DAMAGED IN THE 1957 FIRE. (9/16/57)

CO-83-N-4 VIEW OF THE FILTER PLENUMS DAMAGED IN A FIRE IN BUILDING 771. (9/16/57)

CO-83-N-5 VIEW OF PRODUCTION AREA IN BUILDING 771. (6/20/60)

CO-83-N-6 VIEW OF CHEMICAL HOLDING TANKS IN PRODUCTION AREA. (6/20/60)

CO-83-N-7 VIEW OF ANION EXCHANGE EQUIPMENT DURING INSTALLATION. (10/18/61)

CO-83-N-8 VIEW OF GLOVE BOXES USED IN THE ANION EXCHANGE PROCESS. THE ANION EXCHANGE PROCESS PURIFIED AND CONCENTRATED PLUTONIUM-BEARING NITRIC ACID SOLUTIONS TO MAKE THEM ACCEPTABLE AS FEED FOR CONVERSION TO METAL. (6/20/60)

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- CO-83-N-9 VIEW, LOOKING WEST, OF GLOVE BOXES ASSOCIATED WITH THE ANION EXCHANGE PROCESS IN ROOM 149. THE GLOVE BOXES ON THE LEFT CONTAIN MIXER STIRRERS THAT AID IN THE DISSOLUTION PROCESS THAT OCCURRED PRIOR TO ANION EXCHANGE. (6/20/60)
- VIEW OF CALCINER IN ROOM 146-148. THE CALCINER HEATED PLUTONIUM PEROXIDE TO CONVERT IT TO PLUTONIUM OXIDE. THE PROCESS REMOVED RESIDUAL WATER AND NITRIC ACID LEAVING A DRY, POWDERED PRODUCT. (4/29/65)
- CO-83-N-11 SIDE VIEW OF INSTALLATION OF A CONTINUOUS ROTARY-TUBE HYDROFLUORINATOR LOCATED IN ROOM 146. THE HYDROFLUORINATOR IS BEING INSTALLED INSIDE A GLOVE BOX. HYDROFLUORINATION CONVERTED PLUTONIUM OXIDE TO PLUTONIUM TETRAFLUORIDE. (1/11/62)
- CO-83-N-12 END VIEW OF INSTALLATION OF THE HYDROFLUORINATOR EQUIPMENT IN ROOM 146. THIS HYDROFLUORINATOR WAS INSTALLED IN 1963 TO INCREASE CONTROL AND CONSISTENCY IN THIS STEP OF THE PROCESS. (1/11/62)
- VIEW OF THE HYDROFLUORINATOR AFTER INSTALLATION. SUPPLEMENTAL SHIELDING, WHICH MOVES ALONG TRACKS IN THE FLOOR AND CEILING PROTECTS WORKERS FROM NEUTRON RADIATION EMISSIONS ASSOCIATED WITH THE PROCESS. (4/29/65)
- CO-83-N-14 VIEW OF THE ANION EXCHANGE CONTROL PANEL. (2/16/66)
- CO-83-N-15 VIEW OF LABORATORY EQUIPMENT IN THE BUILDING 771 ANALYTICAL LABORATORY. THE LAB ANALYZED SAMPLES FOR PLUTONIUM, AMERICIUM, URANIUM, NEPTUNIUM, AND OTHER RADIOACTIVE ISOTOPES. (9/25/62)
- CO-83-N-16 VIEW OF A BALANCE IN ROOM 188. (3/64)
- CO-83-N-17 VIEW OF STEAM CONDENSATE COLLECTION TANKS. THE GLOVE BOX IN THE BACKGROUND IS AT THE END OF THE AMERICIUM RECOVERY LINE. (5/27/71)

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- CO-83-N-19 VIEW OF PROCESSING ROOM. AFTER 1957, BUILDING 771
  OPERATIONS CONSISTED PRIMARILY OF AQUEOUS PLUTONIUM
  RECOVERY FROM SCRAP METAL. (6/20/60)
- CO-83-N-20 VIEW OF THE INCINERATOR. DURING ROUTINE BUILDING OPERATIONS IN DECEMBER 1988, A HEAT PLUME WAS GENERATED THAT WAS REGISTERED ON FILM BY A PASSING AIRCRAFT. OFFICIALS WITH THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) BELIEVED THAT ILLEGAL OPERATIONS WERE BEING CONDUCTED. THE USEPA USED THIS OPPORTUNITY TO CONVINCE AUTHORITIES TO ISSUE A WARRANT TO ENTER THE ROCKY FLATS PLANT AND INVESTIGATE THE ALLEGATION. (4/98)